differences were observed in PPAR, post-procedural mean gradient, cerebrovascular events, and 30-day or 1-year VARC-2 composite endpoints between the 2 groups. Finally, at a median follow-up period of 429 days (IQR 208 - 730), Kaplan-Meier curves reported no significant differences in long-term all-cause (17.8% vs. 23%; Log Rank p = 0.210) and cardiovascular mortality (13.3% vs. 17.6%; Log Rank p = 0.256).
Conclusions: According to our results, direct MCV implantation is safe and effective, with outcomes comparable to MCV implantation with PBAV. However it was associated with a higher need of VBPD.

TCT-744

Does "High" implantation Of Self-Expandable prosthesis Affect Positively Short- And Long-Term Outcome Of Patients Undergoing Transcatheter Aortic Valve Implantation?

Manolis Vavuranakis[1], Maria Kariori[1], V. Voudris[2], Konstantinos Kalogeras[1], Sofia Thomopoulou[2], Konstantinos Aznaouridis[1], Evangelia Bei[1], Carmen Moldovan[1], Maria Lavda[1], Dimitrios A. Vrachatis[1], Christodoulos Stefanadis[1]
[1]1st Department of Cardiology, Hippokration Hospital, National and Kapodistrian University of Athens, Athens, Greece, [2]2nd Department of Cardiology, Onassis Cardiac Surgery Centre, Athens, Greece

Background: Transcatheter aortic valve implantation (TAVI) is an emerging treatment option for inoperable or high risk patients. Low implantation (over 8mm) has been frequently implicated with moderate or severe paravalvular aortic regurgitation (PVR). However, it has not been evaluated the effect of high implantation on the outcome of the procedure. The purpose of this study is to assess whether high implantation affects the short- and long-term outcome of the procedure.
Methods: Consecutive patients who underwent TAVI were evaluated. Echocardiographic parameters were recorded before the procedure, at discharge of the patient and during one month- and one year- follow-up. Permanent pacemaker implantation (PPI), one month- as well as one year- mortality were recorded according to VARC criteria. ID was defined as the distance both from the native coronary cusp (NCC) and the left coronary cusp(LCC) to the deepest edge of the deployed bioprosthesis in the left ventricle using an offline program. The patients were separated into two groups according to the ID. Group I included all patients with normal (4-8 mm) or low implantation (>8mm) and Group II included those with high (0-4 mm) or over the annulus implantation(distance from either LCC or NCC < 0 mm).
Results: One hundrend eighty six consecutive patients (81±5.5 years, 103 males) who underwent TAVI were recorded.In Group I, peak gradientat discharge (17±8 vs. 14±4 mmHg, p< 0.01) and mean gradient at discharge (9±4 vs. 7,5±3,5 ,p=0.02) was significantly higher comparing to Group II, while there was no difference among two groups during one month- and one year- follow up. Furthermore, the percentage of patients with need for PPI after TAVI, was significantly greater in Group I comparing to Group II (45.6% vs. 2.9% , p=0.03). Similarly, one year- all cause mortality was higher in Group I (13,7% vs. 0%, p=0.03) while one year- cardiovascular as well as one month- and in-hospital mortality did not differ among two groups.
Conclusions: In conclusion, high implantation seems to have a positive effect on short- and long-term outcome of the procedure.

TCT-745

Feasibility and outcomes of transcatheter aortic valve implantation in high-risk patients with stenotic bicuspid aortic valves

Radoslaw Parma[1], Piotr Pysz[2], Zofia Parma[1], Wojciech Wojakowski[1], Grzegorz A. Smolka[1], Andrzej J. Ochala[3]
[1]Medical University of Silesia, Katowice, Poland, [2]Medical University of Silesia Hospital, Katowice, Poland, [3]Professor, Katowice, Poland

Background: Bicuspid aortic valve (BAV) is the most common congenital heart disease and may lead to aortic valve stenosis. Although Transcatheter Aortic Valve Replacement(TAVR) emerged as an alternative therapy in high-risk patients with tricuspid aortic valve stenosis, presence of a stenotic BAV is often considered a contraindication, due to its unique anatomy and increased risk of periprocedural complications. We aimed to assess the feasibility and outcomes of TAVR in high-risk patients with bicuspid aortic valve stenosis.
Methods: The study is a prospective, single-centre registry of patients with BAV stenosis treated with TAVR. Periprocedural safety, hemodynamic and clinical outcome was observed during patient follow-up.
Results: Of 130 high-risk patients with severe aortic stenosis who underwent TAVR from January 2009 to May 2014 in our centre, 15 (12.5%) patients had documented BAV. Patients were aged 76±9 years (range 56-90), with mean Logistic EuroScore I of 20±11%, all in New York Heart Association functional class III. The mean aortic valve area was 0.76±0.36 cm2, mean gradient was 45.3±15.1 mmHg and mean LVEF was 50.5±12.4%. The procedure was performed using transfemoral access in 13 (87%), transaortic in 1 (6.5%) and transapical in 1 (6.5%) patient. Medtronic CoreValve prosthesis was implanted in 9 (60%) and Edwards Sapien XT in 6 (40%) patients. TAVI procedure was successful in 13 patients (87%). Major adverse events according to the second Valvular Academic Research Consortium definitions were present in 2 patients: 1 periprocedural death (Edwards Sapien XT 29) and 1 periprocedural stroke (Medtronic CoreValve 26). Importantly, both complications were related to prosthesis dislocation from the bicuspid aortic valve annulus. Postprocedural aortic valve mean gradient was 8±2 mmHg and AVA 1.4±0.4 cm2. After a mean follow-up of 13±12 months (range 1-39) no further adverse events occurred. All survivors remained in NYHA class I or II.
Conclusions: Our initial experience suggests TAVI using CoreValve and Sapien XT prostheses in high risk patients with stenotic bicuspid aortic valve is feasible, leading to good short term hemodynamic and clinical improvement.

TCT-746

Mechanism of Transcatheter Aortic Valve Replacement Anchoring

Dmitry Levin[1], Tamir Levi[2], mark reisman[3]
[1]Seattle Science Foundation, Seattle, WA, [2]Edwards Life Sciences Corporation, Tel Aviv, Israel, [3]university of washington, Seattle, WA

Background: TAVR success requires both anchoring and sealing in the native aortic valve complex. These two processes may be unique and not interdependent. Using undersized TAVR device we tested the mechanism of TAVR anchoring
Methods: Five cadaveric hearts with severe aortic stenosis were imaged with CT-scanning. An annular diameter was measured, and a calcium score was assigned. The hearts were pressurized such that SAPIEN 3 (Edwards Lifesciences) valves and frames (implants) could be delivered and deployed. Two endoscopes were positioned, one at the apex and the other in the ascending aorta, to enable visibility. Depending on annulus size, an S3 valve or frame was chosen to be implanted under fluoroscopic and endoscopic guidance such that the implant would be smaller than the annulus currently recommended per Edwards instructions for use (IFU), Strings were attached at three points both at the inflow and outflow portions of the Edwards implants to pull and measure the force required to move the prosthesis. The implants were deployed at discrete inflation volume until the frame initially engaged with the native leaflets. Dimensions were measured, and pull forces were applied in both the LV and aortic directions until the implant demonstrated movement . A gauge attached to the strings, measured dislodgement forces.
Results: See table
Conclusions: High pull forces are required to displace undersized TAVR valves in the absence of annular interaction with the prosthesis indicating that: anchoring is at the native leaflet level and that anchoring and sealing may be two distinct processes.

Donor	Annulus diameter [mm]	Valve/Frame size [mm]	Pull force towards LV {N]	Pull force towards aorta [N]
Donor 1	33-36	F26	8.6	27
Donor 2	27-29	F29	46[1]*	37.8[2]*
Donor 3	21.5	V23	28	13
Donor 4	25-27	V23	12	3.8
Donor 5	21-23	V26	27[2]*	27[2]*

[1]* Suture broke due to excessive pull force
[2]* Stopped pulling at this force without any observed dislodgement.
Key: F – Frame,V- Valve N-Newtons

TCT-747

Cost of transcatheter aortic valve implantation in the real-world: a single-center experience

Charis Costopoulos[1], Angela Frame[2], Ghada Mikhail[3], Nilesh Sutaria[4], Ben Ariff[2], Jon Anderson[5], Andrew Chukwuemeka[5], Iqbal S. Malik[5]
[1]Hammermsith Hospital, London, UK, [2]Hammersmith Hospital, London, United Kingdom, [3]Imperial College Healthcare Trust, London, United Kingdom, [4]Imperial College NHS Trust, London, London, [5]Imperial College NHS Trust, London, London

Background: Transcatheter aortic valve intervention (TAVI) is a recognized life-saving treatment for those who are at high risk for conventional aortic valve surgery. The financial cost of a TAVI "pathway" from the time of referral to the time of hospital discharge was assessed.
Methods: Consecutive patients (n=46) who underwent TAVI between February 2012 and December 2013 at Hammersmith Hospital, London, UK were included in this retrospective study. The analysis included costs of outpatient appointment, investigations prior to the procedure, the TAVI procedure as well as post-procedural costs including the cost of pacemaker implantation. NHS tariff costs were used for the assessment. Comparison of the costs incurred following implantation of the Edwards and CoreValve bioprostheses was also performed.